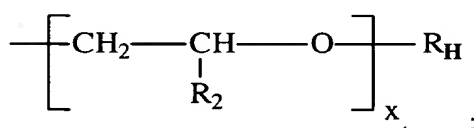


wherein each R is selected from the group consisting of R<sub>2</sub>, R<sub>C</sub>, and



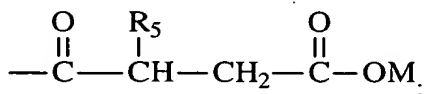
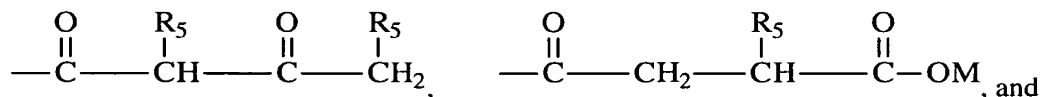
wherein:

- each R<sub>2</sub> is independently selected from the group consisting of H and C<sub>1</sub>-C<sub>4</sub> alkyl;

- T0402
- each R<sub>C</sub> is  $\text{---}(\text{CH}_2)_y\text{---}\overset{\text{O}}{\parallel}\text{C}\text{---}\text{OZ}$ ;

wherein each Z is independently selected from the group consisting of M, R<sub>2</sub>, R<sub>C</sub>, and R<sub>H</sub>;

- each R<sub>H</sub> is independently selected from the group consisting of C<sub>5</sub>-C<sub>20</sub> alkyl, C<sub>5</sub>-C<sub>7</sub> cycloalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, substituted alkyl, hydroxyalkyl, C<sub>1</sub>-C<sub>20</sub> alkoxy-2-hydroxyalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryloxy-2-hydroxyalkyl, (R<sub>4</sub>)<sub>2</sub>N-alkyl, (R<sub>4</sub>)<sub>2</sub>N-2-hydroxyalkyl, (R<sub>4</sub>)<sub>3</sub>N-alkyl, (R<sub>4</sub>)<sub>3</sub>N-2-hydroxyalkyl, C<sub>6</sub>-C<sub>12</sub> aryloxy-2-hydroxyalkyl,



- each R<sub>4</sub> is independently selected from the group consisting of H, C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>5</sub>-C<sub>7</sub> cycloalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, aminoalkyl, alkylaminoalkyl, dialkylaminoalkyl, piperidinoalkyl, morpholinoalkyl, cycloalkylaminoalkyl and hydroxyalkyl;
- each R<sub>5</sub> is independently selected from the group consisting of H, C<sub>1</sub>-C<sub>20</sub> alkyl, C<sub>5</sub>-C<sub>7</sub> cycloalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, substituted alkyl, hydroxyalkyl, (R<sub>4</sub>)<sub>2</sub>N-alkyl, and (R<sub>4</sub>)<sub>3</sub>N-alkyl;

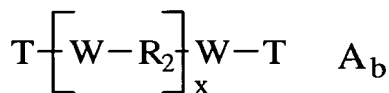
wherein:

M is a suitable cation selected from the group consisting of Na, K, 1/2Ca, and 1/2Mg;

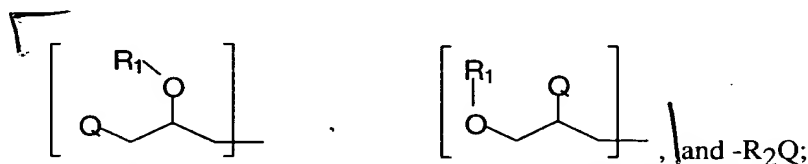
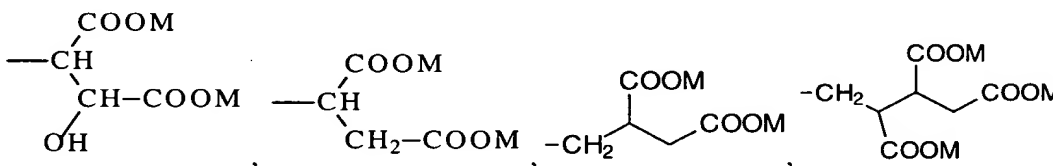
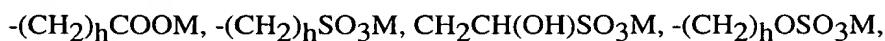
each  $y$  is from 1 to 5; and

- the Degree of Substitution for group R<sub>H</sub> is between 0.0005 and 0.1;
- the Degree of Substitution for group R<sub>C</sub> wherein Z is H or M is between 0.2 and 2.0;
- if any R<sub>H</sub> bears a positive charge, it is balanced by a suitable anion; and
- two R<sub>4</sub>'s on the same nitrogen can together form a ring structure selected from the group consisting of piperidine and morpholine.

~~15.~~ The detergent composition of claim ~~14~~, wherein the cyclic amine based polymers, oligomers or copolymers are of the general formula:

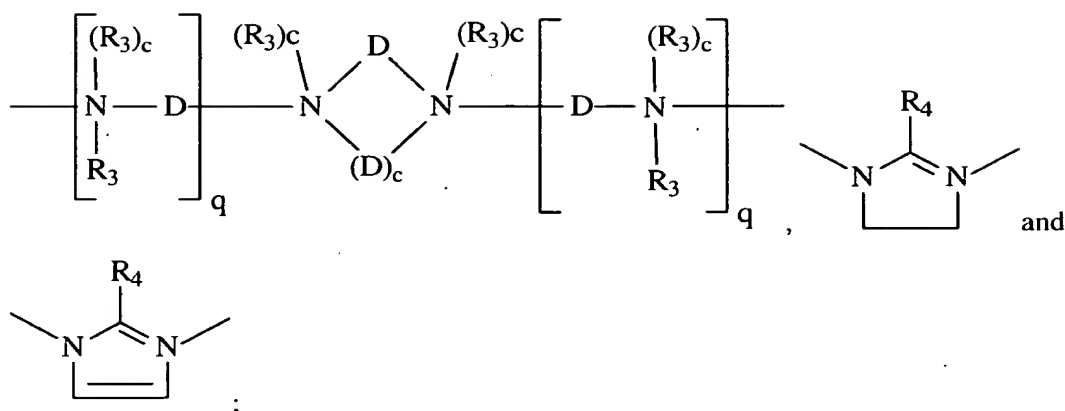


each T is independently selected from the group consisting of H, C<sub>1</sub>-C<sub>12</sub> alkyl, substituted alkyl, C<sub>7</sub>-C<sub>12</sub> alkylaryl,

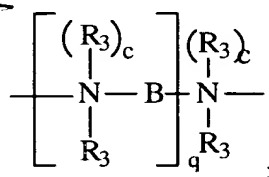


-wherein W comprises at least one cyclic constituent selected from the group consisting of:

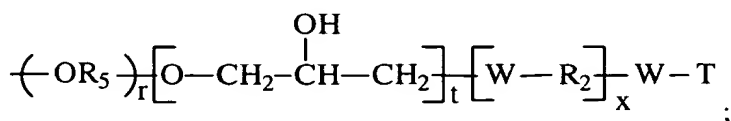
b



in addition to the at least one cyclic constituent, W may also comprise an aliphatic or substituted aliphatic moiety of the general structure;

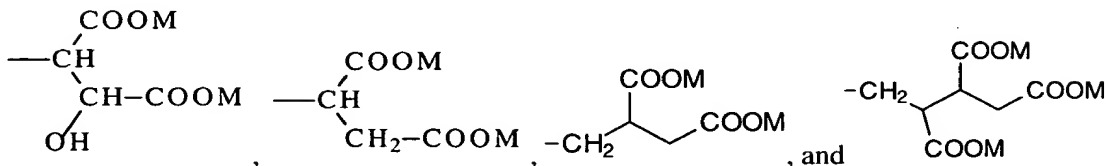


- each B is independently C<sub>1</sub>-C<sub>12</sub> alkylene, C<sub>1</sub>-C<sub>12</sub> substituted alkylene, C<sub>3</sub>-C<sub>12</sub> alkenylene, C<sub>8</sub>-C<sub>12</sub> dialkylarylene, C<sub>8</sub>-C<sub>12</sub> dialkylarylenediyl, and -(R<sub>5</sub>O)<sub>n</sub>R<sub>5</sub>-;
  - each D is independently C<sub>2</sub>-C<sub>6</sub> alkylene;
  - each Q is independently selected from the group consisting of hydroxy, C<sub>1</sub>-C<sub>18</sub> alkoxy, C<sub>2</sub>-C<sub>18</sub> hydroxyalkoxy, amino, C<sub>1</sub>-C<sub>18</sub> alkylamino, dialkylamino, trialkylamino groups, heterocyclic monoamino groups and diamino groups;
  - each R<sub>1</sub> is independently selected from the group consisting of H, C<sub>1</sub>-C<sub>8</sub> alkyl and C<sub>1</sub>-C<sub>8</sub> hydroxyalkyl;
  - each R<sub>2</sub> is independently selected from the group consisting of C<sub>1</sub>-C<sub>12</sub> alkylene, C<sub>1</sub>-C<sub>12</sub> alkenylene, -CH<sub>2</sub>-CH(OR<sub>1</sub>)-CH<sub>2</sub>, C<sub>8</sub>-C<sub>12</sub> alkarylene, C<sub>4</sub>-C<sub>12</sub> dihydroxyalkylene, poly(C<sub>2</sub>-C<sub>4</sub> alkyleneoxy)alkylene, H<sub>2</sub>CH(OH)CH<sub>2</sub>OR<sub>2</sub>OCH<sub>2</sub>CH(OH)CH<sub>2</sub>-, and C<sub>3</sub>-C<sub>12</sub> hydrocarbyl moieties;
- provided that when R<sub>2</sub> is a C<sub>3</sub>-C<sub>12</sub> hydrocarbyl moiety the hydrocarbyl moiety can comprise from about 2 to about 4 branching moieties of the general structure:



- each R<sub>3</sub> is independently selected from the group consisting of H, O, R<sub>2</sub>, C<sub>1</sub>-C<sub>20</sub> hydroxyalkyl, C<sub>1</sub>-C<sub>20</sub> alkyl, substituted alkyl, C<sub>6</sub>-C<sub>11</sub> aryl, substituted aryl, C<sub>7</sub>-C<sub>11</sub> alkylaryl, C<sub>1</sub>-C<sub>20</sub> aminoalkyl,

$-(CH_2)_hCOOM$ ,  $-(CH_2)_hSO_3M$ ,  $CH_2CH(OH)SO_3M$ ,  $-(CH_2)_hOSO_3M$ ,



-each  $R_4$  is independently selected from the group consisting of H,  $C_1$ - $C_{22}$  alkyl,  $C_1$ - $C_{22}$  hydroxyalkyl, aryl and  $C_7$ - $C_{22}$  alkylaryl;

-each  $R_5$  is independently selected from the group consisting of  $C_2$ - $C_8$  alkylene,  $C_2$ - $C_8$  alkyl substituted alkylene; and

A is a compatible monovalent or di or polyvalent anion;

M is a compatible cation;

b = number necessary to balance the charge;

each x is independently from 3 to 1000;

each c is independently 0 or 1;

each h is independently from 1 to 8;

each q is independently from 0 to 6;

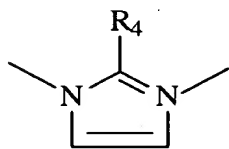
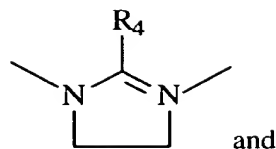
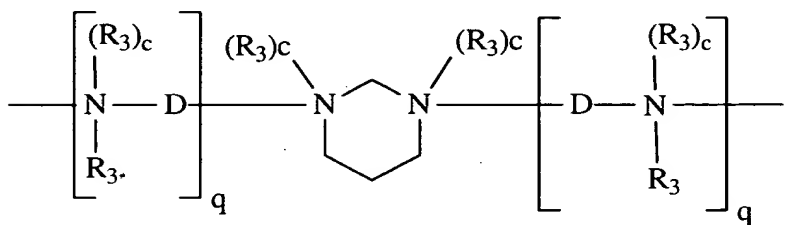
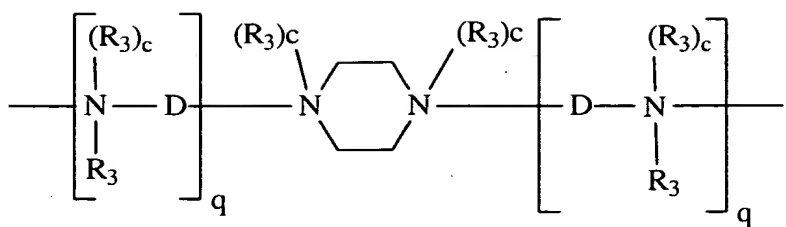
each n is independently from 1 to 20;

each r is independently from 0 to 20; and

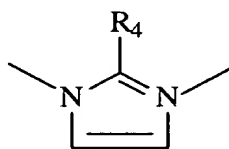
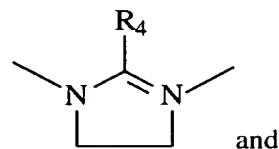
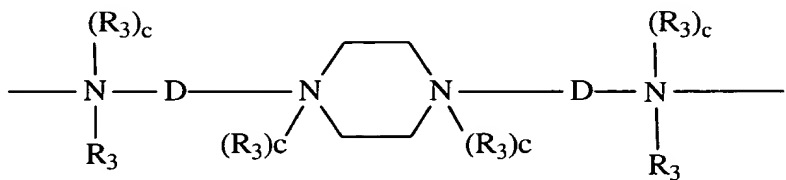
each t is independently from 0 to 1.

4. The detergent composition of claim 1, wherein the cyclic amine based polymers, oligomers or copolymers are adducts selected from the group consisting of piperazine, piperadine, epichlorohydrin, epichlorohydrin benzyl quat, epichlorohydrin methyl quat, morpholine and mixtures thereof.

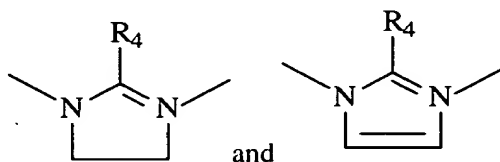
5. The detergent composition of claim 3, wherein each  $R_1$  is H and at least one W is selected from the group consisting of:



~~6~~ 16. The detergent composition of claim ~~13~~ 3, wherein each  $R_1$  is H and at least one W is selected from the group consisting of:



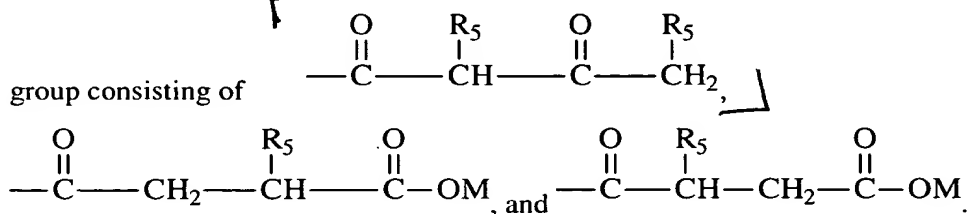
~~7~~ 17. The detergent composition of claim ~~13~~ 3, wherein each  $R_1$  is H and at least one W is selected from the group consisting of:



~~9~~ 18. The detergent composition of claim ~~12~~ 2, wherein each  $R_H$  is independently selected from the group consisting of C<sub>5</sub>-C<sub>20</sub> alkyl, C<sub>5</sub>-C<sub>7</sub> cycloalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryl, C<sub>7</sub>-C<sub>20</sub> arylalkyl, substituted alkyl, hydroxyalkyl, C<sub>1</sub>-C<sub>20</sub> alkoxy-2-hydroxyalkyl, C<sub>7</sub>-C<sub>20</sub> alkylaryloxy-2-hydroxyalkyl,  $(R_4)_2N$ -

alkyl, (R<sub>4</sub>)<sub>2</sub>N-2-hydroxyalkyl, (R<sub>4</sub>)<sub>3</sub>N-alkyl, (R<sub>4</sub>)<sub>3</sub>N-2-hydroxyalkyl, and C<sub>6</sub>-C<sub>12</sub> aryloxy-2-hydroxyalkyl.

9.19 The detergent composition of claim 12, wherein each R<sub>H</sub> is independently selected from the



10.20 The detergent composition of claim 12, wherein the cellulosic based polymer or oligomer has an average molecular weight of from 5,000 to 2,000,000.

15.21 A laundry additive composition comprising:

- from 1% to 80% by weight of water; and
- from 0.01% to 5.0%, by weight of a mixture of cyclic amine based polymers, oligomers or copolymers and hydrophobically modified cellulosic based polymers or oligomers.

16.22 The laundry additive composition of claim 15, wherein the composition further comprises a pH adjuster and one or more fabric softening components.

11.23 The detergent composition of claim 11, wherein the composition further comprises a deterative enzyme and an enzyme stabilization system.

12.24 The detergent composition of claim 11, wherein the composition further comprises an inorganic peroxygen bleaching compound, which is selected from the group consisting of alkali metal salts of perborate, percarbonate and mixtures thereof, and a bleach activator, which is nonanoyloxybenzene sulfonate.

13.25 The detergent composition of claim 11, wherein the composition further comprises a cellulase enzyme.

14.26 The detergent composition of claim 24, wherein the composition further comprises a cellulase enzyme.